Executive Summary

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New information for 2004 is bold and italicized

Goal: To Restore and protect the integrity of the Lake Michigan ecosystem through collaborative place-based partnerships.

Strategic Action Agenda	Subgoals of the Lake Michigan LaMP	Significant Happenings 2000-2004	Near-Term Objectives 2004-2006	Long-Term Objectives
	END POINT SUBGOALS			
Human Health Actions that prevent human exposure to pollutants in the ecosystem and prevent or minimize sources	**Subgoal 1** We can all eat any fish ***Status*** • Mixed in 2004 • Mixed/Improving by 2010 • Good by 2020 **Subgoal 2** We can drink the water ***Status*** • Good in 2004 • Good in 2010 • Good in 2020 **Subgoal 3** We can swim in the water ***Status*** • Mixed in 2004 • Mixed/Improving by 2010 • Good by 2020	• Fish advisories for mercury by USFDA and for dioxin by Michigan and Tribes • Grand Cal and Fox River AOC sediment cleanup plans underway • Sokaogon Chippewa Community Bans Burn Barrels • Grand Traverse Band of Ottawa and Chippewa Indians ban burning trash/garbage on tribal lands • TMDL workshops with regulators and stakeholders held • Mercury Phase-Out proposal proposed • Drinking water monitoring and reporting information available on the web • Great Lakes Beach Conference held • Beaches Environmental Assessment and Coastal Health Act of 2000 • EPA and FDA issue joint mercury fish advisory • ***Legacy Act 2002 to clean up sediments passed and $10 million appropriated for FY 2004, $46 million proposed for FY 2005*** • ***Fish consumption advisory outreach programs developedd for non-English speakers*** • ***Impaired waters strategy under development*** • ***Source water assessment programs almost completed*** • ***Public Health Security and Bioterrorism Preparedness and Response Act of 2002 being implemented*** • ***Drinking water education programs developed*** • ***Defense Department Developing Rapid Water Quality Testing Technology*** • ***Constructed wetland effectiveness researched*** • ***Chicago and Milwaukee to control CSOs*** • ***Cladophora alga resurges***	• By 2003, hold a mercury phaseout TMDL stakeholder meeting • By 2004, a TMDL Strategy will be developed for Lake Michigan. • By 2002, EPA will track and report on raw source water for Green Bay, Milwaukee, Chicago, and Muskegon. • By 2003, source water assessments (including security assessment) will be completed and reported. • By 2004, states will adopt criteria, standards, and monitoring programs for beach bacteria. • In Summer 2004, complete public comment draft Guidance for Mercury Pollutant Minimization Program • Develop impaired waters strategy. • Seek funding to develop a source water protection GIS system.	• By 2006, the Binational Toxics Strategy goals of 90 percent reduction of high-level PCBs, 75 percent reduction of total dioxin and furan releases, and 50 percent reduction of mercury use and release will be reached. • By 2007, concentrations of PCBs in lake trout and walleye will be reduced by 25 percent. These results are based on early Lake Michigan Mass Balance model runs. • By 2005, plans will be in place to address drinking water susceptibility to contamination. • By 2005, achieve a 30 percent reduction from the 1992 per capita loadings from combined sewer overflows (CSO), POTWs, and industry. • By 2005, 95 percent of high-priority beach waters (as defined by the state) will be monitored and a public advisory system will be in place. • By 2007, 90 percent of monitored high-priority beach waters (as defined by the state) will meet federal and state bacteria standards for more than 95 percent of the average swimming season. • By 2006 Great Lakes Initiative should be incorporated into renewed permits. • By 2006, source water assessments will be completed and reported. • Cleanup superfund sites and other PCB-contaminated harbors

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Strategic Action Agenda	Subgoals of the Lake Michigan LaMP	Significant Happenings 2000-2004	Near-Term Objectives 2004-2006	Long-Term Objectives
	END POINT SUBGOALS			
Restoration and Protection Actions that restore, enhance, and sustain the health, biodiversity, and productivity of the ecosystem	**Subgoal 4** All habitats are healthy, naturally diverse, and sufficient to sustain viable biological communities ***Status*** • Mixed in 2004 • Mixed/Improving by 2010 • Good by 2020	• Perch population still dropping • Northwest Indiana Advanced Identification of Wetlands Study underway • Keystone species (diporeia) in Lake Michigan food web vanishing • Supreme Court Ruling narrows wetland regulation • Wisconsin passes wetlands protection law • Piping Plover critical habitat designated by USFWS • *Antrim County, Michigan Wetland Protection ordinance rescinded* • Wolf populations recovering • Habitat and Land Use Management Tool Box under development • Established a 1994 baseline for land cover • NIPC "Biodiversity Recovery Plan" document produced • Northwest Indian greenway plan unveiled • Sturgeon restoration efforts begin • ***Diporeia density continues to decrease*** • ***Dam removals in southeastern Wisconsin improve fish habitat*** • ***Nature Conservancy develops Biodiversity Blueprint*** • ***Chicago signs migratory bird treaty*** • ***Bald eagles return to Little Calumet River*** • ***Manistee Watershed grant*** • ***Wisconsin non-point source regulation promulgated***	• By 2002, a process for developing biodiversity recovery manuals for major ecosystem types in the Lake Michigan basin will be implemented. • By 2004, set targets for critical areas (fish spawning areas, dune and swale complexes, wetlands, alvars, prairies, and oak savannas) will be identified, mapped, and presented on line. • Habitat and Land Use Tool Box published, distributed • Utilize SOLEC and Duluth lab indicators and the Wetland Consortium to finalize Lake Michigan indicators • NACD stream buffer report release • A basin-wide buffer program will be explored • Utilize 2000 landsat data to update 1994 baseline land cover GIS • Critical areas mapped and presented on-line • By 2004, critical areas (fish spawning areas, dune and swale complexes, wetlands, alvars, prairies, and oak savannas) will be identified, mapped, and presented on line • Midwest grey wolf moves from endangered to threatened • EPA and states take action to protect isolated wetlands • By 2005, no net loss of wetland acreage and function will be achieved in the basin. • By 2006 a process for developing biodiversity recovery manuals for major ecosystem types will be implemented • By 2006, set targets for critical areas will be identified, mapped and presented on-line.	• By 2012, the 2004 target acreages will be enhanced, restored, or protected: 1,000 acres of spawning areas (islands under water reefs); (example acreages: 12,500 acres of system wetlands; 1,000 acres of isolated wetlands; 1,000 acres of dunes; and 37,500 acres of stream buffers - comments requested).

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	END POINT SUBGOALS			
Sustainable Use Actions that concurrently sustain the health of the environment, the economy, and the communities of the ecosystem	**Subgoal 5** Public access to open space, shoreline, and natural areas is abundant and provides enhanced opportunities for human interaction with the Lake Michigan ecosystem ***Status*** • Mixed in 2004 • Mixed/Improving by 2010 • Good by 2020 **Subgoal 6** Land use, recreation, and economic activities are sustainable and support a healthy ecosystem ***Status*** • Mixed in 2004 • Mixed/Improving by 2010 • Good by 2020	• Governors and Premiers sign Great Lakes Charter Annex 2001 • Indiana moves into Coastal Zone Management program • Wisconsin Smart Growth act • Historic Agreement to Manage Fisheries in 1836 Treaty Waters • Economic valuation studies by Northeast-Midwest Institute, Lake Michigan Federation, and University of Wisconsin Sea Grant • Lake Michigan Potential Damages study continues in sixth year • USGS Lake Michigan Trends Project funded • USGS Pollutants of Concern list developed • Upland Michigan Land Use report • Federal two-year ban on drilling under the Great Lakes continued in 2003 • Michigan moratorium on drilling under the Great Lakes • Dams removed in Milwaukee and Muskegon Rivers • Menominee tribe purchases proposed Crandon Mine site • Groundwater studies document unsustainable withdrawal • UIC study shows economic benefits of sediment clean ups • ***Crandon Mine site purchased by tribes*** • ***Northwest Indiana mayors join to remake Indiana lakeshore.*** • ***Lake Michigan water trail proposed*** • ***Chicago launches new water agenda.*** • ***Michigan governor outlines comprehensive water agenda.*** • ***MMSD creates river revitalization program using easement acquisition.*** • ***Chicago diversion deficit reduced faster than planned***	• By 2003, the LaMP will partner with coastal zone management programs in the Lake Michigan basin to ensure public access to the lake is balanced with protection of the ecosystem • Identify the need for additional facilities and access points (such as boat ramps canoe, and bicycle and walking trails around Lake Michigan). • Expand the Northeastern Illinois water trail to other states around Lake Michigan. • Publication and distribution of a Habitat and Land Use Management Tool Box that provides web-based information sources on environmentally sensitive habitat and land use management policies and programs. • Establishment of a Lake Michigan Watershed Academy to provide training to local planners and policy makers on balancing environmental concerns with economic and social activities in a watershed context. • Convening of a Brownfield to Greenfield Conference to highlight the need for redevelopment of facilities that have mild to medium contamination rather than developing greenspace. • Convene Planning Commissions to partner on identifying societal indicators and gathering data. • On-line habitat atlas operational. • Forum/Grand Valley State University boat tour to AOC ports • Support Great Lakes Charter Annex improvement standard activities • Support studies to determine groundwater sustainable yields	• Sustainable management of the basin by 2020

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	END POINT SUBGOALS			
Remediation and Pollution Prevention Actions that achieve substantial pollution reduction by remediating sites, controlling pathways, preventing or minimizing sources	**Subgoal 7** Sediments, air, land, and water are not sources or pathways of contamination that affect the integrity of the ecosystem ***Status*** • Mixed in 2004 • Mixed/Improving by 2010 • Good by 2020 **Subgoal 8** Exotic species are controlled and managed ***Status*** • *Mixed in 2004, possible deterioration* • Mixed/Improving by 2010 • Good by 2020	• Lake Michigan Mass Balance (LMMB) findings published • PCB levels in lake trout achieving equilibrium • U.S. EPA Atrazine Reassessment initiated • IADN results consistent with LMMB findings • Bush administration announced climate change and "Clear Skies" initiatives • 1999Toxic Air Emissions inventory released • U.S. EPA published Air Great Lakes Deposition (GLAD) Strategy • PCB/mercury Clean Sweep in Cook County, IL • Wisconsin mercury regulations • States act to control animal operations • New aquatic nuisance species found in Lake Michigan • Michigan Ballast Water Bill • St. Lawrence Seaway Corporation to incorporate ballast water practices • Chicago River invasive species dispersal barrier installed • ANS Task Force and Great Lakes Panel on ANS continue work to control ANS • Great Lakes Governors ANS group created • ***Corps funding secured for building permanent Asian Carp barrier on Chicago River system*** • ***Wisconsin begins mandatory rural NPS program*** • ***Michigan and Indiana add animal operation to permits*** • ***Milwaukee Metropolitan Sewerage District adopts mercury dental program.*** • ***Michigan proposes new NPDES permit for CAFOs*** • ***National Aquatic Invasive Species Act of 2003 passed.*** • ***Asian carp move closer to Chicago River.***	• A mercury source reduction and sediment remediation strategy will be finalized. • Contaminated sediment sites will be reviewed and their status will be updated. • EPA will compile a report on nutrient contributions from the agricultural sector and on point sources during wet weather. • Fall 2003 State of Lake Michigan Conference will present updated mass balance results. • By 2004 and 2005, develop coordinated monitoring to provide a 10-year trend for the lake • Track and provide information on ANS developments as an important part of the LaMP education and outreach efforts. • By 2003, a multi-agency "SWAT" Team will be developed to respond to newly discovered invasive species with the latest control technology. • EPA to release dioxin inventory. • Ensure full funding and research to keep Asian Carp from becoming established in Lake Michigan including the construction of a physical barrier in the Chicago Sanitary and Ship Canal • Continue to educate people in the basin about the importance of preventing the introduction and spread of ANS. Pilot project for outreach to members of Asian community in Chicago and elsewhere who purchase live aquatic organisms for food • Develop a rapid response system for sighting reports. • Review and respond to the LMMCC ANS survey results and recommendations. • Complete LMMCC ANS monitoring survey results and recommendations	• By 2010, remediation of 50 percent of AOC sites • By 2020, remediation of 70 percent of AOC sites • By 2025, remediation of 100 percent of AOC sites • By 2010, vessels entering the Great Lakes will discharge ballast water free of invasive species. • Eliminate further ANS introductions by 2010.

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Information Sharing, Collaboration and Stewardship Actions that provide data access and exchange, facilitate involvement, and build capacity	**Subgoal 9** Ecosystem stewardship activities are common and undertaken by public and private organizations in communities around the basin ***Status*** • Mixed in 2004 • Mixed/Improving by 2010 • Good by 2020 **Subgoal 10** Collaborative ecosystem management is the basis for decision-making in the Lake Michigan basin ***Status*** • Mixed in 2004 • Mixed/Improving by 2010 • Good by 2020	• Lake Michigan Forum developing Stewardship trust • State of Lake Michigan Conference held - November 2001 • Forum/Grand Valley State University "Making Lake Michigan Great Tour" continues to educate about Lake Michigan ecosystem during summer cruises • Great Lakes Strategy released in 2002 by U.S. EPA • Great Lakes Human Health Network established • Voluntary monitoring Conference March 2002 • Wingspread Accord signed • Participation by regional councils in watershed planning and water supply conferences • ***Watershed Academy training held and 6 regional conferences held or planned*** • ***Indiana Coastal Zone program gives out first grants*** • ***Illinois Conservation Congress recommends investigation of CZM participation*** • ***Great Lakes Cities Initiative launched*** • ***Illinois Ecosystem Partnership for Lake Michigan in development*** • ***Waukegan recognized as an EPA Environmental Justice community*** • ***Great Lakes restoration bill introduced into Congress*** • ***EPA utilizes watershed focus*** • ***Mona Lake Watershed Stewardship Assessment completed*** • ***Illinois-Indiana-Wisconsin planning agencies agree to consistent groundwater planning***	• Publish additional education and outreach materials • Establish the Lake Michigan Watershed Academy • Publish the habitat and land use management tool box • On-line habitat atlas will be operational • Hold FY 2002 State of Lake Michigan Conference • Convene a bi-state St Joseph Watershed conference on June 10 and 11, 2002 • Establish the Lake Michigan Watershed Academy • Hold a 2003 State of Lake Michigan conference • Take comments on proposed changes to Lake Michigan pollutant and stressor lists • Determine the usefulness of Lake Michigan LaMP watershed fact sheets and exploration of other needed tools (see Appendix D) • Continue the Lake Michigan Watershed Academy and support GIS and models workshops and small implementation grants to local communities • Provide additional education and outreach materials on water conservation and source water protection • Promote the habitat and land use management tool box • On-line habitat atlas continues to build layers • Hold FY 2005 State of Lake Michigan Conference • Continue the research vessel boat tour – Making Lake Michigan Great	• Clean up and delist AOCs • Implement the Lake Michigan Watershed Academy

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Research and Monitoring Actions that monitor the ecosystem, reduce uncertainty, and inform our decisions	**Subgoal 11** We have enough information/data/understanding/ indicators to inform the decision-making process ***Status*** • Mixed in 2004 • Mixed/Improving by 2010 • Good by 2020	• LMMB project findings • Lake Michigan Monitoring Coordinating Council monitoring and assessment inventory • Lake Michigan Monitoring Assessment report released • Beach monitoring program (BEACH) created by U.S. EPA • BEC statement and monitoring conference • IJC/Delta Institute/Lake Michigan Forum Air Deposition Workshop • Great Lakes Wetlands Consortium consolidates wetland information • EPA/ORD wetlands indicators • LaMP pollutant list review • Beach Conference, web site, and manager's group • ***National Park Service monitoring begins*** • ***Lake Michigan Monitoring Council develops 2005 intensive monitoring year plan*** • ***Midwest Spatial Information Partnership formed - Workshop held in conjunction with Lake Michigan Watershed Academy*** • ***LMMB data sets available*** • ***Ann Arbor Statement on long-range atmospheric transport proposed***	• A LMMB Study report will be prepared for each contaminant studied added to the LaMP 2000 online. • Progress will be made in prioritizing indicators for the lake and monitoring them. • The coordinated monitoring plan for the lake will be finalized. • LMMB Study findings will be documented and model runs will be completed. • Monitoring and research will be reviewed to identify LaMP pollutants. • Progress will be made in aligning monitoring programs and indicators. • The coordinated monitoring plan for the lake intensive monitoring year 2005 will be finalized. • Cladophora alga research and development needed.	• Special effort and emphasis on coordinated monitoring in the Lakes Michigan basin by 2004-05